REMARKS

A. The Status of the Claims and the Amendments

Claims 1-12, 14-16, and 20-48 are pending, of which claims 7, 10, 11, 21-39, and 43-48 were previously withdrawn from consideration. Claims 13, 17-19, and 49-100 were previously canceled without prejudice. By the present amendment, claim 1 has been amended to more particularly define the Applicants' invention and to claim it with greater specificity. The proposed amendments to claim 1 are supported by the specification and the original claims. No new matter has been added.

More specifically, a limitation "the matrix includes a hydrophobic domain" is disclosed in the original specification (page 15, lines 12-16 and FIG. 5). Also, a limitation "comprising a residue of an amino acid having a hydrophobicity value of at least 1.5 kcal/mol: is disclosed in the original specification (page 30, lines 6-8).

It is submitted that the amendments place the claims in condition for allowance. Entry of the amendments is respectfully requested.

B. First Rejection Under 35 U.S.C. § 103(a)

Claims 1-6, 16, 17, 20, and 40-42 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,543,158 to Gref et al. in view of the European patent document EP 0727225 to Quay, U.S. Patent No. 5,981,478 to Ruoslahti et al. and U.S. Patent No. 5,238,714 to Wallace et al. (item 4 on pages 3-4 of the Office Action). The Applicants submit that claim 17 was previously canceled, and therefore, should not have been rejected. With regard to claims 1-6, 16, 20, and 40-42, the rejection is respectfully traversed on the grounds that the basic criteria that must be met to establish a prima facie case of obviousness have not been satisfied. These basic criteria have been discussed in the response filed August 30, 2005.

Specifically, Gref et al. neither disclose nor suggest a composition comprising polymer particles that are modified by conjugation targeting peptides to the particles where the particles include "a hydrophobic domain comprising a residue of an amino acid having a hydrophobicity value of at least 1.5 kcal/mol," as required by claim 1, as amended. All that Gref et al. disclose is that antibodies or fragments thereof can be covalently attached to the particles (col. 3, lines 23-24), as well as proteins (col. 3, line 28). Specifically, the use of Fab or Fab_2 antibodies is disclosed (col. 3, line 25).

Each of Quay, Ruoslahti et al., and Wallace et al., as well as the combination thereof, fail to cure this deficiency. Indeed, both Quay and Ruoslahti et al. disclose using various peptide ligands (e.g., RGD) and shows that polymers can be conjugated to such ligands. However, Quay's teachings are limited to contrast agents only (see, abstract) and the disclosure of Ruoslahti et al. is limited to teaching that some specific peptides having the RGD sequence can effectively bind to certain integrins (see, col. 9, lines 63-64). With respect to Wallace et al., all that is disclosed is a synthetic procedure that can be used for conjugating amino acid esters to polymers that form microcapsules (example 3, col. 9, lines 39-56). While the teachings of Wallace et al. show that some ligands can be attached to the particles, there is nothing in Wallace disclosing or suggesting that peptides can be such ligands. Accordingly, neither Quay nor Ruoslahti et al. nor Wallace et al. nor a combination of these references provide any motivation or suggestion of using the conjugates that are disclosed in nanoparticles.

In view of the foregoing, even if Gref et al., Quay, Ruoslahti et al. and Wallace et al. are combined, the combination of these three references does not disclose or suggest every element of claim 1. It is therefore submitted that claim 1, is patentably distinguishable over Gref et al. in view of Quay, Ruoslahti et al., and Wallace et al. Each of claims 2-6, 16, 20, and 40-42, depends, directly or indirectly, on claim 1 and is considered patentable for at least the same reason. Withdrawal of the rejection and reconsideration are respectfully requested.

C. Second Rejection Under 35 U.S.C. § 103(a)

Claims 1-6, 8, 9, 12-17, 20, and 40-42 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,759,431 to Hunter in view U.S. Patent No. 5,578,325 to Domb et al. and in view of Ruoslahti et al. (page 4, last paragraph of the Final Office Action). Again, the Applicants submit that the rejection does not apply to the previously canceled claim 17. The same applies to the previously canceled claim 13. As to the other claims, the rejection is respectfully traversed on the following grounds.

The requirements that need be satisfied to have a valid obviousness rejection are as discussed above. Hunter discloses drug delivery systems, including microcapsules encapsulating a drug, particularly for delivery of campothecin (see, e.g., col. 15, line 20), but fail to describe polymer particles conjugated to peptides, where "the peptide contains between 2 and 100 amino acid residues," as required by claim 1, as amended. Each of Domb et al., and Ruoslahti et al., as well as the combination thereof, fail to cure this deficiency. Specifically, Domb et al. discuss various diblock copolymers and targeting ligands that can be attached to them (e.g., see example 1 and table 1, col. 15), but fail to teach or suggest that the ligands can be peptides recited in claim 1, as amended. Ruoslahti et al. teach what is described above, and as previously discussed, provides no motivation or suggestion of using the conjugates that are disclosed in nanoparticles.

Accordingly, even if Hunter, Domb et al., and Ruoslahti et al. are combined, the combination of these three references does not disclose or suggest every element of claim 1. It is therefore submitted that claim 1, is patentably distinguishable over Hunter, Domb et al., and Ruoslahti et al. Each of claims 2-6, 8, 9, 12, 14-16, 20, and 40-42, depends, directly or indirectly, on claim 1 and is considered patentable for at least the same reason. In view of the foregoing, withdrawal of the rejection and reconsideration are respectfully requested.

CONCLUSION

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved, the Examiner is requested to contact the undersigned at the telephone number given below so that a prompt disposition of this application can be achieved.

No fee is believed due in connection with this submission. However, the Commissioner is hereby authorized to charge any fees required by this submission, or credit any overpayments, to Deposit Account No. 07-1896 referencing the above-identified docket number. A duplicate copy of the Transmittal Sheet is enclosed.

Respectfully submitted,

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